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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,246	03/19/2001	John P. Wong	032885-001	8377
21839 7590 09/14/2007 BUCHANAN, INGERSOLL & ROONEY PC POST OFFICE BOX 1404 ALEXANDRIA, VA 22313-1404			EXAMINER RIMELL, SAMUEL G	
			ART UNIT 2164	PAPER NUMBER
			NOTIFICATION DATE 09/14/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/810,246

Applicant(s)

WONG, JOHN P.

Examiner

Sam Rimell

Art Unit

2164

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 10-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Provino et al. (U.S. Patent 5,778,384).

Claim 1: FIG. 7 illustrates a single unified directory structure produced by combining directory structures of multiple file systems. Each of the elements 71(1) through 71(n) is a virtual logical storage device directory (col. 12, line 6) that corresponds to a remote physical file system (col. 3, lines 40-45). Accordingly, FIG. 7 is a structure representing multiple physical file systems unified within a single directory.

The means for mounting which generates and combines the directory structures together into a single directory is the client module (23) shown in FIG. 2 (col. 11, lines 61-67).

Fig. 7 is thus the virtual file system data structure generated by the means for mounting. This structure includes multiple elements (71(1)- 71(n)) which correspond to the mounted physical files. Each element includes application interface data structures (directory labels such as “DIR1”, “DIR 2”, “DIR3”, “SUBDIR 1”) and each element includes two or more pointers (“child→”, “sibling→”, “mounted subdir→”, “mount ptr→”) which point to the application interface data structures.

Claim 2: The application interface data correspond to virtual directories, each of which will constitute a virtual node (“vnode”).

Claim 3: As seen from Fig. 7, the mounted components are directories. Each directory corresponds to directory of files within a file system.

Claim 4: FIG. 7 illustrates a single unified directory structure produced by combining directory structures of multiple file systems. Each of the elements 71(1) through 71(n) is a virtual logical storage device directory (col. 12, line 6) that corresponds to a remote physical file system (col. 3, lines 40-45). Accordingly, FIG. 7 is a structure representing multiple physical file systems unified within a single directory.

The means for mounting which generates and combines the directory structures together into a single directory is the client module (23) shown in FIG. 2 (col. 11, lines 61-67).

Col. 13, lines 40-48 refer to the initiation of a WRITE request. Since the WRITE request is an access operation which uses the directory tree (70) in FIG. 7 (col. 14, lines 6-8), the WRITE operation will be performed on the linked file systems within the directory tree.

Claim 5: Col. 4, lines 2-5 refer to an access operation which uses a path identifier. Col. 13, lines 40-48 refer to one such access operation as a WRITE operation and thus the WRITE operation invokes a path identifier. Since the access operation uses the directory tree (70) of FIG. 7 (col. 14, lines 5-7), the WRITE operation as disclosed would use the paths defines in the directory tree (70).

Claim 6: Col. 9, lines 20-21 refer to locks on the physical files. Locks inherently inhibit WRITE operations.

Claim 7: The mounting means is the client module (23) which generates the directory tree of FIG. 7 (col. 11, lines 61-67). The tree mounts directories of separate physical file systems together by linking together their corresponding virtual logical storage structures (71(1)-71(n)).

Claim 8: The single unified directory of FIG. 7 is a single mount point, lacking any further clarification in the claim as to what a single mount point actually is.

Claim 10: See remarks for claim 7.

Claim 11: See remarks for claim 1. Note that FIG. 2 illustrates one server (12) having physical storage devices (32). Col. 5, lines 27-28 refer to multiple server computers rather than just the one shown in Fig. 2.

Claim 12: The client module (23) is the client device which performs the mounting. FIG. 7 is the virtual file system which illustrates the components of the different file systems mounted together into a single directory structure.

Claim 13: See remarks for claim 1.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Provino et al. (U.S. Patent 5,778,384).

Claims 9 and 14-15: Claims 9 and 14-15 differs from Provino in that Provino does not indicate the virtual file system directory structure of FIG. 7 as being replicated into the servers (12). However, once the directory structure is created within the network, duplicating the structure within storage elements of the network would have been obvious to one of ordinary skill in the art as a duplication of existing parts (MPEP 2144.04 (B)).

Claim 16: See remarks for claim 1.

Remarks

Applicant's arguments have been considered.

Claims 1, 5, 7, 8 and 10 have been amended to delete the reference to a "physical file system". This amendment, while making the amended claims broader in scope, does not overcome any of the rejections of record.

Applicant's arguments are directed exclusively to the Provino et al. reference. Applicant's first argument is that Provino et al. in FIG. 7 provides only one directory for one file system. Examiner agrees that the combination of elements in FIG. 7 do result in a single directory structure, but this is exactly what claim 1 calls for, so it is mutually agreed by both examiner and applicant this feature is taught by Provino. Examiner does not agree that the structure shown in FIG. 7 represents one single file system (remarks, page 12, third paragraph, last line). Examiner finds that the directory structure in FIG. 7 represents components from multiple file systems. Each of the elements 71(1) through 71(n) is a virtual logical storage device directory (col. 12, line 6) that corresponds to a distinct remote physical file system (col. 3, lines 40-45). Accordingly, FIG. 7 is a structure which represents multiple remote file systems which become unified under a single directory structure using the means of FIG. 7.

Applicant's second argument is that mounted elements 71(1)-71(n) operate independently of each other. This argument is moot, as the claims do not discuss the relative dependence or independence of the mounted structures. Nonetheless, the assertion is incorrect. The components 71(1)-71(n) are interrelated through the use of multiple pointers, such as "child→", "sibling→", "mounted subdir→", "mount ptr→ which are clearly illustrated in FIG. 7.

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Applicant's third argument is that the pointers in FIG. 7 do not point to application interface data structures. Examiner maintains that the elements "DIR1", "DIR 2", "DIR3", "SUBDIR 1" are in fact interface data structures, lacking any evidence to the contrary. It is also maintained that the pointers within FIG. 7 point to these interface data structures, as clearly illustrated in FIG. 7.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Sam Rimell at telephone number (571) 272-4084.



Sam Rimell
Primary Examiner
Art Unit 2164